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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/805,623

03/19/2004

Michael Wagner

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EXAMINER

CUMBERLEDGE, JERRY L

ART UNIT

PAPER NUMBER

3733

MAIL DATE

DELIVERY MODE

01/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/805,623

Applicant(s)

WAGNER ET AL.

Examiner

Jerry Cumberledge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-176 is/are pending in the application.
- 4a) Of the above claim(s) 53-65 and 164-176 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 and 66-163 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 115 and 141 are rejected under 35 U.S.C. 102(b) as being anticipated by Talos et al. (US Pat. 5,709,686).

Talos discloses a bone plate (Fig. 1) having a longitudinal axis (Fig. 1) and comprising: an upper surface (Fig. 1, top surface facing the viewer); a lower surface (Fig. 1, bottom surface, facing away from the viewer); and at least one first type of hole (Fig. 1, e.g. ref. 2), the first type of hole being elongated and extending through the upper and lower surfaces (Fig. 1), and having a central axis and a longitudinal axis (Fig. 1), wherein the first type of hole is at least partially threaded (Fig. 1, near ref. 3) and the threaded portion of the hole tapers inward with respect to the central axis (since the thread of the screw creates at least a slight taper, e.g. Fig. 7); and at least a second type of hole extending through the upper and lower surfaces (Fig. 5, unlabeled hole in middle of top plate), wherein the second type of hole is substantially non-threaded (Fig. 5) (column 1, lines 41-43, since at least one hole has threading, which mean the others can be unthreaded).

Talos discloses a bone plate (Fig. 1) having a longitudinal axis (Fig. 1) and comprising: an upper surface (Fig. 1, top surface facing the viewer); a lower surface

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(Fig. 1, bottom surface, facing away from the viewer); at least one first type of hole extending through the upper and lower surfaces (Fig. 5, unlabeled hole in middle of top plate), and having a first central axis (Fig. 5) and being elongated in a direction substantially aligned with the longitudinal axis (Fig. 5), wherein the first type of hole is non-threaded (Fig. 5) (column 1, lines 41-43, since at least one hole has threading, which mean the others can be unthreaded) and has an outer perimeter (Fig. 5), at least a portion of the outer perimeter tapering inward from the upper surface to the lower surface to form at least one ramp surface (Fig. 4, ref. 5) for engagement with a first screw head; and at least a second type of elongated hole (Fig. 1, ref. 2) extending through the upper and lower surfaces (Fig. 1), the second type of hole having a second central axis and a longitudinal axis (Fig. 1), wherein the hole is at least partially threaded (Fig. 1, ref. 3) and the threaded portion of the hole tapers inward with respect to the second central axis (since the thread of the screw creates at least a slight taper, e.g. Fig. 7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-52, 66-114, 116-140 and 142-163 are rejected under 35 U.S.C. 103(a) as being unpatentable over Talos et al. (US Pat. 5,709,686).

Talos discloses a bone plate (Fig. 1) having a longitudinal axis (Fig. 1) and comprising: an upper surface (Fig. 1, top surface facing the viewer); a lower surface (Fig. 1, bottom surface, facing away from the viewer); at least one first type of hole (Fig. 1, e.g. ref. 2), the first type of hole being elongated and extending through the upper and lower surfaces (Fig. 1), and having a central axis and a longitudinal axis (Fig. 1), wherein the first type of hole includes a threaded portion (Fig. 1, ref. 3) and a non-threaded portion (Fig. 1, portion directly below ref. 5); and at least a second type of hole (Fig. 1, another ref. 2) extending through the upper and lower surfaces (Fig. 1), the second type of hole including an internal thread (Fig. 1, ref. 3) configured and dimensioned for engaging a threaded portion of a screw head. The plate comprises a plurality of holes of the first type and a plurality of holes of the second type (Fig. 1). The plurality of holes of the first type are located closer to a first end of the plate and the plurality of holes of the second type are located closer to a second end of the plate (Fig. 1). The longitudinal axis of at least one of the first type of hole is substantially aligned with the longitudinal axis of the plate (Fig. 1). The second type of hole has an outer perimeter that is substantially circular (Fig. 1). The second type of hole is conically tapered inward from the upper surface towards the lower surface of the plate (Fig. 3 and Fig. 4). The bone plate further comprises at least a third type of hole extending through the upper and lower surfaces, wherein the third type of hole is substantially non-threaded (column 1, lines 41-43, since at least one hole has threading, which mean the others can be unthreaded)(Fig. 5). The second type of hole has a first opening on the upper surface of the bone plate and a second opening on the bottom surface of the

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bone plate, and the first and second openings have substantially the same dimensions (Fig. 1, since they are approximately the same). The threaded portion of the first type of hole extends through a first angle at the upper surface; the threaded portion of the first type of hole extends through a second angle at the lower surface; and the first angle is larger than the second angle (Fig. 1, since the threads extend through various angles along the threaded portion, i.e. 1-180, some of which are larger than others. The first type of hole has first and second ends spaced apart along the longitudinal axis, and the threaded portion is disposed adjacent one of the ends (Fig. 1). The threaded portion of the first type of hole is located closer to a central portion of the bone plate than to an end portion of the bone plate (Fig. 1, since any of the ref. 2's can be considered to be the first hole, including a hole near the center of the plate). The non-threaded portion of the first type of hole is configured and dimensioned to engage a substantially spherical screw head and provide compression of fractured bone fragments. The bone plate further includes a screw (Fig. 6, ref. 7) having a head (Fig. 6, ref. 8), wherein the screw head is substantially smooth (Fig. 6). The bone plate further includes a screw (Fig. 5, ref. 6) having a head (Fig. 5 upper portion of ref. 6), wherein the screw head is at least partially threaded (Fig. 5). The non-threaded portion of the first type of hole includes a concave recessed portion in the upper surface (Fig. 1, near ref. 5). The recessed portion is substantially spherical (Fig. 1). The first type of hole has a first dimension on the lower surface that is substantially parallel to the longitudinal axis (Fig. 1); the first type of hole has a second dimension on the lower surface that is substantially perpendicular to the longitudinal axis (Fig. 4); The threaded portion of the first type of

hole tapers inward in a direction from the upper surface towards the lower surface (since the thread of the screw creates at least a slight taper, e.g. Fig. 7). At least a portion of the non-threaded portion of the first type of hole tapers inward from the upper surface to the lower surface to form at least one ramp surface (Fig. 1, ref. 5) for engagement with a screw head. The ramp surface is located on one end of the first type of hole to provide compression in a single direction (Fig. 5).

Talos discloses a bone plate (Fig. 1) having a longitudinal axis (Fig. 1) and comprising: an upper surface (Fig. 1, top surface facing the viewer); a lower surface (Fig. 1, bottom surface, facing away from the viewer); at least one first type of hole (Fig. 1, e.g. ref. 2), the first type of hole being elongated and extending through the upper and lower surfaces (Fig. 1), and having a central axis and a longitudinal axis (Fig. 1), wherein the first type of hole includes a threaded portion (Fig. 1, ref. 3) and a non-threaded portion (Fig. 1, directly below ref. 5); and at least a second type of hole extending through the upper and lower surfaces, wherein the second type of hole is substantially non-threaded (column 1, lines 41-43, since at least one hole has threading, which mean the others can be unthreaded) (Fig. 5).

Talos discloses a bone plate (Fig. 1) having a longitudinal axis (Fig. 1) and comprising: an upper surface (Fig. 1, top surface facing the viewer); a lower surface (Fig. 1, bottom surface, facing away from the viewer); at least one first type of hole (Fig. 5, unlabeled hole in middle of top plate) extending through the upper and lower surfaces (Fig. 5), and having a first central axis (Fig. 5) and being elongated in a direction substantially aligned with the longitudinal axis (Fig. 5), wherein the first type of hole is

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non-threaded (column 1, lines 41-43, since at least one hole has threading, which mean the others can be unthreaded) (Fig. 5) and has an outer perimeter (Fig. 5), at least a portion of the outer perimeter tapering inward from the upper surface to the lower surface to form at least one ramp surface (Fig. 4, ref. 5) for engagement with a first screw head; and at least a second type of elongated hole (Fig. 1, ref. 2) extending through the upper and lower surfaces (Fig. 1), the second type of hole having a second central axis (Fig. 1) and a longitudinal axis (Fig. 1), wherein the second type of hole includes a threaded portion (Fig. 1, ref. 3) and a non-threaded portion (Fig. 1, ref. 5).

Talos discloses a bone plate (Fig. 1) having a longitudinal axis (Fig. 1) and comprising: an upper surface (Fig. 1, top surface facing the viewer); a lower surface (Fig. 1, bottom surface, facing away from the viewer); and at least one first type of hole (Fig. 1, ref. 2), the first type of hole being elongated and extending through the upper and lower surfaces (Fig. 1), and having a central axis a longitudinal axis, wherein the first type of hole is at least partially threaded (Fig. 1, ref. 3) and the threaded portion of the hole tapers inward with respect to the central axis (since the thread of the screw creates at least a slight taper, e.g. Fig. 7); and at least a second type of hole extending through the upper and lower surfaces, the second type of hole including an internal thread configured and dimensioned for engaging a threaded portion of a screw head (column 1, lines 33-45).

Talos discloses the claimed invention except for the threaded portion extends through an angle of between about 190° and about 280° with respect to the central axis. The second type of hole conically tapers at a cone angle of between about 5° and about

20°. The threaded portion of the first type of hole extends through an angle of between about 200° and about 250° with respect to the central axis. The first dimension is between 1.1 and 3 times larger than the second dimension. The first angle is between about 200° and about 270°, and the second angle is between about 180° and about 230°. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have constructed the threaded portion extending through an angle of between about 190° and about 280° with respect to the central axis. The second type of hole conically tapers at a cone angle of between about 5° and about 20°. The threaded portion of the first type of hole extends through an angle of between about 200° and about 250° with respect to the central axis. The first dimension is between 1.1 and 3 times larger than the second dimension. The first angle is between about 200° and about 270°, and the second angle is between about 180° and about 230°, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Furthermore, with regard to the angles of the hole that are threaded, Talos discloses that the threading can occur across a range of angular values (column 2, lines 40-44), the threading being used to seat a head of a bone screw (column 1, lines 443-45). Thus, it would have been obvious to a person having ordinary skill in the art to try the various other angles (i.e. angles less than 60 and angles greater than 179) in an attempt to provide a better seat for the head of the bone screw, as a person with

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ordinary skill has good reason to pursue the known options within his or her technical grasp. *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385 (2007).

Talos discloses the claimed invention except for a plurality of holes of the first type and at least one hole of the second type or third type is located closer to a first end of the plate and a plurality of holes of at least the second type are located closer to a second end of the plate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have located the plurality of holes of the different types at the various locations, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Response to Arguments

Applicant's arguments filed 11/07/2007 have been fully considered but they are not persuasive.

With regard to Applicant's argument's directed towards Fig. 5, the examiner notes that Fig. 5 does show a hole that is unthreaded. Furthermore, the examiner's argument not only rests on Fig. 5, but also on column 1, lines 41-43, which states that at least one hole has a partial threaded portion, which indicates that not all of the holes need to be partially threaded.

With regard to Applicant's argument that Talos teaches holes that are identical to each other, the examiner refers again to column 1, lines 41-43, that indicate that there can be different holes in the plate.

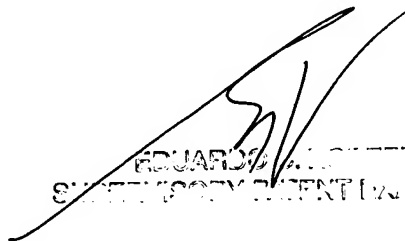
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Cumberledge whose telephone number is (571) 272-2289. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eduardo Robert can be reached on (571) 272-4719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLC



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